

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-12 (Cancelled)

Claim 13 (Currently Amended): A process for producing hydrogen, ~~characterized in that the process comprises~~ comprising:

desulfurizing a hydrocarbon fuel ~~through removal of a sulfur compound contained in a hydrocarbon fuel by use~~ contacting the hydrocarbon fuel to ~~of an adsorbent as recited in claim 1~~ comprising cerium oxide, primary particles of the cerium oxide having a mean crystallite size of 10 nm or less; and,

subsequently, bringing the desulfurized fuel ~~which has been desulfurized~~ into contact with a catalyst comprising at least one member selected from the group consisting of a partial-oxidation reforming catalyst, an ~~autothermal~~ autothermal reforming catalyst, ~~or and~~ a steam reforming catalyst.

Claim 14 (Currently Amended): ~~A~~ The process for producing hydrogen as described in ~~of claim 13, wherein the partial-oxidation reforming catalyst, the autothermal reforming catalyst, or the steam reforming catalyst contains~~ comprises at least one member selected from the group consisting of ruthenium or and nickel.

Claim 15 (Currently Amended): ~~A~~ The process for producing hydrogen as described in ~~of claim 13, wherein desulfurizing is performed while neither~~ without adding hydrogen nor or oxygen is added.

Claim 16 (Currently Amended): ~~A-The process for producing hydrogen as described in~~ of claim 13, wherein desulfurizing the comprises removing at least one sulfur compound is at least one species selected from among the group consisting of carbonyl sulfide, carbon disulfide, hydrogen sulfide, mercaptans, sulfides, and thiophenes.

Claim 17 (Currently Amended): ~~A-The process for producing hydrogen as described in~~ of claim 13, wherein desulfurizing is performed at a temperature of 200°C or lowerless.

Claim 18 (Currently Amended): ~~A-The process for producing hydrogen as described in~~ of claim 13, wherein desulfurizing is performed at a temperature of 100°C or lowerless.

Claim 19 (Original): A fuel cell system ~~characterized by employing hydrogen produced through a process for producing hydrogen as recited in any of claims 13 to 18,~~ comprising:

a desulfurizer; and

a reforming apparatus;

wherein:

the desulfurizer comprises an adsorbent comprising cerium oxide having primary particles with a mean crystallite size of 10 nm or less, the desulfurizer being configured so that a hydrocarbon fuel can be contacted to the adsorbent; and

the reforming apparatus comprises a catalyst comprising at least one member selected from the group consisting of a partial-oxidation reforming catalyst, an autothermal reforming catalyst, and a steam reforming catalyst, the reforming apparatus being configured so that a desulfurized fuel can be contacted to the catalyst.

Claim 20 (New): The process of claim 13, wherein the adsorbent has a specific surface area of  $20 \text{ m}^2/\text{g}$  or more.

Claim 21 (New): The process of claim 13, wherein the adsorbent has a specific surface area of  $50 \text{ m}^2/\text{g}$  or more.

Claim 22 (New): The process of claim 13, wherein the cerium oxide exhibits a cumulative hydrogen consumption, as calculated up to  $600^\circ\text{C}$  in a temperature-programmed reduction test, of  $200 \text{ }\mu\text{mol/g}$  or more.

Claim 23 (New): The process of claim 13, wherein the cerium oxide exhibits a cumulative hydrogen consumption, as calculated up to  $600^\circ\text{C}$  in a temperature-programmed reduction test, of  $300 \text{ }\mu\text{mol/g}$  or more.

Claim 24 (New): The process of claim 13, wherein the adsorbent contains a mixture of cerium oxide and at least one oxide selected from the group consisting of  $\text{Al}_2\text{O}_3$ ,  $\text{SiO}_2$ ,  $\text{TiO}_2$ ,  $\text{ZrO}_2$ , and  $\text{MgO}$ .

Claim 25 (New): The process of claim 13, wherein:  
the adsorbent further comprises at least one element selected from the group consisting of elements belonging to Groups 1 to 15 in the periodic table; and  
the at least one element is carried on cerium oxide.

Claim 26 (New): The process of claim 25, wherein the cerium oxide on which the at least one element is carried is calcined at a temperature of 400°C or less.

Claim 27 (New): The process of claim 25, wherein the at least one element is present in an amount of from 1 to 90 mass% based on a total mass of the adsorbent.

Claim 28 (New): The process of claim 13, wherein the cerium oxide is a complex oxide comprising cerium and at least one metallic element other than cerium selected from the group consisting of elements belonging to Groups 2 to 16 in the periodic table.

Claim 29 (New): The process of claim 13, wherein the hydrocarbon fuel is selected from the group consisting of LPG, town gas, natural gas, naphtha, kerosene, gas oil, or at least one hydrocarbon compound or oxygen-containing hydrocarbon compound selected from among ethane, ethylene, propane, propylene, butane, butene, methanol, and dimethyl ether.